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An Essay on Pneumonia &c

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An Inaugural Dissertation on Pneumonia Vera

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by James Whitehead.

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Pneumonia.

In making choice of a fit subject for an essay it was my intention to have confined my remarks, altogether to that division of pneumonic affection described by authors under the denomination of Pleurisy; but after consulting some of the most ingenious writers, whose descriptive & discriminating powers approximate perfection & whose greatest imperfections consist in fruitless endeavours to discriminate, where discrimination is impracticable, I have been induced to abandon my previous determination as injudicious & unnecessary: for from the sameness of the symptoms which are detailed as forming the generic & characteristic marks of distinction between the different seats of the disease, I found it impossible to draw a line of separation, nor do I believe it to exist except in the imagination of those who have, so arduously laboured in vain to point it out. In support of these opinions I have the authority of Sydenham: for in speaking of Pleurisy & Peripneumony he makes the following observation, "that they differ only in de= "gree & in respect of the great violence & large extent "of the same cause." I might call to my aid the additional authority of Cullen, Brown, Darwin, Wilson &c; but as the distinction is not contended

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For at this more enlightened period, I shall be led to refer to a case cited by Cleghorn to prove the treachery of symptoms in pointing out the seat of disease; he informs us that he lost a patient labouring under all the symptoms of pleurisy, but on dissection he found both the pleura & lungs in a sound state, the diaphragm was inflamed & an abscess in the liver which had opened into the cavity of the abdomen, producing sphacelus of the contiguous parts, inflammation & adhesion of the small intestines.

In order to be more methodical & in compliance with the usual form of investigating this disease, it may not be improper before I enter more minutely on Pneumonia Vera to which I prefer confining my observations, to point out the different subdivisions which have arrested the attention of authors. When the inflammatory action is seated in the lungs, they have given it the appellation of Peripneumonia, which is characterized by a dull & obtuse pain, difficulty of breathing, coughing & expectoration &c.

When in the Pleura, the pain is more acute, attended with little or no expectoration & should delirium supervene it is Paraphrenitis. Nor have affections of the heart, pericardium & mediastinum been overlooked. Each have had their names & their peculiar symptoms.

Dissection, which is certainly the only true way by which we can arrive at the real seat of disease, by no

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many countenance these imaginary diagnostics, & the less reluctantly relinquish them, as unattainable, from a belief, that were it possible to ascertain from symptoms the precise part affected, we should not in the smallest degree be benefited by the acquisition.
Experience teaches they are the result of the same causes & their cure effected by the same remedies.

Of Pneumonia Vera.

In the consideration of every disease, it becomes the duty of the author in the first place to investigate its nature, that is, whether it be an Idiopathic or Symptomatic affection; In support of both which opinions respectable authority might be adduced relative to the disease, before us; but as it is not uncommon for primary causes to be lost in the magnitude of their effects I think myself at least equally in hazarding the opinion of its belonging to the latter division, when it does not proceed from mechanical injuries, as contusions, wounds &c, & when I contemplate the causes which produce this affection & the symptoms which precede the diagnostic marks of pneumonia. I am much more confident in the opinion of its being the effect of a diseased system with local determination, but to prove most incontrovertibly the correctness of this opinion, it will only be necessary to pay attention to the primary symptoms of the disease.

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Those who are most subject to pneumonia it is remarked are the strong, vigorous, plethoric, who are much exercised & readily digest their food, & particularly those of this description who are subject to Coughs. It is most apt to occur Dr Cullen informs us between the age of forty-five & sixty, but no age is exempt from it, it may & does occasionally occur at every period of life, from the cradle to very advanced age, altho' we may expect to meet with it much more frequently at the time of life mentioned by our author. – The most frequent immediate cause of pneumony is a long exposure to cold damp weather or a sudden change from cold to heat & vice versa. I cannot understand Dr Cullen, when he says the cause already pointed out, produces the disease by checking perspiration & determining to the lungs, ~~that the cold vapour coming in contact with the skin~~ I would rather suppose it is the result of the great sympathy which exists between the skin & lungs & that the cold vapour coming in contact with the skin produces debility which is communicated ~~to the respiratory organs~~, thereby rendering them more irritable, so much so that an exciting cause is only necessary to give rise to that high grade of inflammatory action which characterizes the disease. It may however much increase the violence of the disease by checking perspiration; for by so doing, the temperature of the body would be increased & consequently the inflammatory diathesis & the grade of the inflammation as

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Dr Brown remarks, it always in proportion to the diathesis. May not also act as a remote exciting cause, by inducing debility in the pulmonary organs? from the immediate connection which exists between them & the external air? I think the conjecture not an improbable one, as experience teaches that the lungs are more affected by the rarity & density of the air, why not by the temperature? For unless it is admitted that a greater degree of debility or predisposition to take on morbid action may be present in the lungs, than exists in other parts of the system, that this predisposition may be produced by causes which do not affect the general system in an equal degree, I should suppose it difficult to account why long & loud speaking, singing, playing on wind instruments, or any inordinate exercise of the lungs, which are justly considered by authors among its causes; but if as I believe to be the fact, that the lungs that may be more predisposed to disease, than any other part of the system, from the effect of the causes already enumerated, the difficulty vanishes at once: for an exciting cause is only wanting to act on this predisposition of the system to take on disease, which will always be in proportion to the quantum of predisposition & force of exciting cause. If the former existing in a greater degree in the lungs, than in any other part, it follows of

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course that the excitement there will be greater & which we find actually to be the case. Another cause of pneumony Dr Darwin informs us is the adhesions which are in most instances found to exist between the lungs & pleura, which he supposes to be formed in early life from particular inclination of the body. They not then adhesions lay the foundation for the previous mentioned to the disease, which Dr Rush remarks to exist often after the first attack. In proof of the correctness of his opinion a portion, he informs us he has cured one man in this city 24 or 25 times of Pleurisy. Other causes are said to produce the disease as excessive eating & drinking &c; but these I presume in most instances act as exciting causes. I would not wish to be understood as conveying an idea that a predisposition in the lungs is alone sufficient for the formation of the disease. My idea is that there is more less disposition in the whole system to take on morbid action, which being produced & debility being greatest in the lungs we are to expect that the same causes which produce excitement in the general system in proportion to the quantum of predisposition will produce a greater degree of excitement in the lungs where the predisposition is greater, in which opinion I think I am supported by the symptoms which precede & which characterise the existence of the disease, which I shall next proceed to examine.

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The symptoms which precede what is strictly called Pneumonia Vera, are a sense of lassitude, depression & a weak frequent pulse attended with cold shivering alternating with flushes of heat, they finally cease & fever supervenes accompanied with heat, thirst, acute & all the symptoms which characterize the common inflammatory or synocha state of fever, which continues for many hours & even days perhaps before we discover the diagnostic marks of pneumonia which are pain, difficulty of breathing, cough & a strong, hard & quick pulse. These are the more uniform symptoms, those which are said more directly point to the throne of the disease, are so variable, that I shall endeavour to speak more minutely of them, as it is from an intimate acquaintance with them that we are alone able to form a judgement of the probable issue of the disease.

The pained position is occasioned by the corresponding inflammation & probably in some degree by the adhesions which take place between the cells of the lungs or between the membranes attached to them & pleura. It follows of course that the distention of the former & the pressure with that distention

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must make in the latter, can have no other effect than to produce pain; as the sensibility of the parts are much increased, the pain differs as respects kind & degree; it is increased at each inspiration, it is increased & rendered more tolerable by different positions of the body. Lying on the back will sometimes afford ease, when the patient cannot rest on either side, nor is it unfrequent to see the unhappy sufferer compelled to abandon a horizontal & seek relief in an erect position or posture. The seat of the pain is not confined to any particular part, though most frequently in one or the other side; it often shifts from parts to parts of the thorax. Sometimes extends as high up as the clavicle & scapula & as low down as the kidneys — the fact of the pain's shifting its seat affords ground & very good indeed, for its being altogether a secondary affection. The difficulty of breathing depends much on the same causes which induce pain, when the latter exists we may always certainly expect to find the former in a greater or less degree & so much are they influenced by similar circumstances that to describe the one is to point out the principal variations of the other —

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The Cough which is one of the most disagreeable as well as painful occurrences in Pneumonic affections from its tendency in most instances to increase the pain & inflammation, is caused by an effused or extravasated fluid either into the trachea or its ramifications which acts as an irritant on those parts rendered more exquisitely sensible by inflammation. It is mostly dry in the commencement of the disease, afterwards becoming humid & attended with the expiring & expectoration of mucus sometimes resembling pus, streaked with blood & colored with a brown or black matter, it differs however much as to quantity, consistence & color in the different stages of the disease.

There is no circumstance connected with this disease which merits in so eminent a degree the attention of the Physician as the pulse, in practice it must be our pilot by which we must be directed: for without a knowledge of it we can neither practice correctly or successfully in this or any other form of disease. It is in most instances strong, hard, quick & frequent it is not alike in all cases, nor must it be expected, it is like other symptoms subject to variation — we occasionally find it intermitting, irregular & depressed; this should be recollected, particularly

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as the practice is to be influenced by it. The pulse even varies in different arms in the same person, Dr Cleghorn observes he found it most obscure in the affected side, hence the propriety in forming a judgement of the case, to feel the pulsations in both arms. No certain standard can be given to the temperature of the body. It is in proportion to the height of the Pyrexia & the quantity of perspiration. Dr Cleghorn informs us that in several he found the heat natural & in a few less so, but in by far the greater number much augmented, even as high as from 102 to 104 of Farenheit. In most cases there is either a costiveness or a diarrhea of the bowels. The skin is hot & dry, face & eyes flushed, tongue dry, white & rough & sometimes dark. All these symptoms vary exceedingly in different constitutions & according to the grade of the disease.

I shall now point out a few of those appearances, upon which have been predicted a favorable or unfavorable issue of the disease. A dry cough attended with much pain, difficulty of breathing, flushing of the face, a wild & ferocious eye &c are considered unfavorable, but when there is no pain or cough, we have much more danger to apprehend: for it evinces the highest grade of morbid action.

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When the disease has arrived at an advanced period there is frequently an abatement of pain, while the difficulty of breathing still continues, which so far from being what many have supposed a favorable symptom, is too often the precursor of death. It shows that the excitability is exhausted, that the excitement is converted into a torpor of the inflamed parts & that the effusion which Dr Cullen considers as a termination peculiar to the lungs is about to take place & suffocation & immediate death are the consequence. A cessation of all the alarming & troublesome symptoms similar to this is mentioned by Cheyne, as likely to occur about the third day & returning again on the fourth or fifth with increased violence. In such cases the termination is for the most part fatal. These "insidious remissions" deserve peculiar attention, the circumstances should never be forgotten. It would, if not noticed, give the Physician a favorable, tho false opinion of the patient's case & he would be apt to be neglected, when he stood in the most needed of medical aid. Dr Cheyne honestly confesses that he was frequently deceived by these treacherous intermissions remissions, & to the great disadvantage of his patients. The translation of pain has been considered by some as a dangerous

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& by others as a favorable symptom; it I presume depends altogether on the part to which it is translated. If from a vital to a part less important to life I should always consider it as favorable - Wilson says always favorable when the pain is translated from the thorax to the arms: Miliary eruptions, add our author generally terminate the disease, when they occur. Sydenham & Cleghorn have both left testimony in favor of the salutary tendency of erysipelatous inflammation in removing the disease - Should the pulse be slow, intermitting or natural, Cleghorn informs us we have the greatest danger to fear. This observation is confirmed by professor Rush. A free & copious expectoration without much straining or cough is always favorable; should it be stained with blood we need not be alarmed; it is in the first stage a good sign. A copious discharge of urine which after standing a short time, becomes turbid & deposits a thick sediment indicates a happy termination. So much confidence does Cleghorn place in this circumstance, that he says he has known it alone cause a favorable crisis of the disease. When the patient is able to sleep profoundly in a natural or horizontal posture

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without starting or manifesting any symptoms of disturbance, when he can make a full inspiration without much difficulty or pain, conjoined with some of the salutary symptoms already hinted at we may with propriety inform him that the storm is over, & that with prudent care he may calculate on being soon restored to the arms of health & security.

Pneumonia Vera which differs from inflammation in no other part, except in seat & degree, may terminate in resolution, suppuration & gangrene. It may end by effusion of which I have before spoken, by inducing the cachexia, the dropsy pulmonic & dropsy of the pericardium. The termination by resolution is the only one which holds forth hopes of complete restoration to health. It is indicated by the most of the symptoms which have been enumerated as salutary, such as the free expectoration of thick, white or yellowish matter tinged with blood, a copious discharge of urine which deposits a turbid sediment & general spontaneous sweats. Should not these favorable symptoms shew themselves before the seventh day we have reason to fear suppuration, which may however be protracted to a much later period. Dr. Cullen remarks to the 1st. & we are informed by Dr. Wilson that

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resolution may take place after the disease has continued for four or five weeks. But at any period of the disease, should the patient be afflicted with partial cold & shivering, should his pulse become more or less frequent, full & soft, we may conclude that the suppurative process has already commenced. Added to the above symptoms, should there be an obstinate dry cough, should fever continue with difficult breathing, while the pain becomes less, should thirst be considerable, with night sweats & at irregular intervals, should the lips & cheeks become of a circumscribed red appearance attended with a pallid countenance, emaciation & great debility of the body, we can have little doubt but that the suppuration has progressed & that an abscess is formed. The tendency to gangrene, which is the most fatal but fortunately the most rare termination, may be known from the great violence of the disease resisting all remedies. When it supervenes there is a partial or total cessation of pain, difficulty of breathing, the pulse becomes weak, frequent & intermitting, the cheeks become of a red livid hue, the breath fetid, the matter expectorated assumes an ichorous appearance, a dim eye & dejected countenance &c are the harbingers of approaching death —

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It would be proper in this place to give some account of the appearances on dissection, but as I have nothing to say from my own observation, I must refer to books, where they are to be found much more correctly detailed than I could give them. I shall therefore pass them over & proceed to the method of treatment of Pneumonia.

The Remedies by which this disease has been subjected to the dominion of medicine, have by all Physicians been divided into generals & locals. Under the first head is to be considered that potent & invaluable remedy Bloodletting, deprived of which in the treatment of this disease, the Rotaries of medicine would be but too frequently summoned to the beds of affliction, only to witness the imperfection of their Science. It may justly be styled the anchor of hope in the treatment of the disease before us - much has been said of the quantity of blood it is proper to take from a patient laboring under Pneumonia. When we consider the variety of Constitutions that may be assailed by it & the different grades of the disease which may appear in each Constitution, even in the same at different times, it will readily be

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perceived, that it is impracticable to specify the quantity which any one attack of the disease may demand. We are informed by Dr Sydenham that he seldom knew a true pleurisy cured without the loss of 40 oz. of blood & Cheyne has left on record invaluable testimony in favor of copious bleeding. He remarks the pleurisies were incurable by bleeding only when drawn with a timid hand & in too small quantity — He scarcely ever met with a case so violent, but he could controul, after he disengaged himself from the trammels which the ignorance & prejudice of his predecessors, had thrown about him & adapted a practice at once bold & salutary — for he often derived the greatest advantage from drawing upwards of ℥50 of blood in the course of 24 hours, even this quantity would not unfrequently sound too small. There can be no rule given, the physician's judgment must be altogether influenced by the constitution of the patient, age, climate, predisposition, the nature of the prevailing Epidemic & above all the grade of the disease. If a physician forms his judgment by these circumstances & regulates his practice accordingly, reputation & success will be the reward —

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The most effectual directions that can be given, are, to bleed until the pain & difficulty of breathing are relieved, the arterial action reduced or until Syncope is about to commence. We are advised to the advise minute attention, that if our patients are apt to faint to bleed them in a horizontal position or to have the head inclined lower than the body: for it will in most prevent Syncope. "The reason of this precaution (says Dr Rotheraine) is evident, viz, that while the motion of the heart is suspended during fainting the blood stagnates in the right side of the heart & is afterwards thrown with great impetuosity against the lungs". Fainting from the first bleeding should not prevent a repetition of it, if necessary, as we may with confidence assure the patient that it will not again occur. Both Dr Cullen & professor Rush bear testimony of the truth of the remarks. ——

"Having determined on the propriety of bleeding, as subject of enquiry among Physicians has arisen, i.e. from what part should it be taken. Relative to such enquiry a dispute little need be said, as it is a circumstance of minor consideration. Should it put the patient to no

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inconvenience, I should deem it most proper to follow the directing of those who directed it to be taken from the arm of the affected side. From the circumstance of the pulse varying in some frequency in the different arms, sometimes there may be good foundation for this practice. The blood drawn from different arms has exhibited different appearances of disease. For a knowledge of this fact I am indebted to Professor Rush. Bleeding has been objected to after the disease has existed four or five days. Although most effectual in the early part of the disease, yet it is proper it should be employed at any stage, provided the symptoms indicate it. It has been condemned upon the ground of its thwarting the operating of nature in carrying off the disease by expectoration, sweating &c. These objections are neither supported by experience or theory. Dr Cullen remarks so far from checking expectoration he has known it increased by Bleeding. Cleghorn informs us a patient had a pain in his right side for which he had been bled, who was cured by epistaxis from the right nostril

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The discharge of blood though inconsiderable brought on a profuse sweat & thereby effected a cure. Hence we see, bloodletting in certain states of the system, is our best diaphoretic & expectorant. Nor was Sydenham unacquainted with this fact when he makes the orifice of a vein perform the function of a windpipe. The fear of inducing debility need be no obstacle to the free use of the lancet; as Cheyne remarks that those who lost a large quantity of blood recovered their health & strength very soon, while on the contrary, those that are more sparingly bled continued in a languid infirm state for many months without being able to get rid of the pain & cough. The second remedy is purging. We need not expect any very great advantage from them in this complaint. After the violence of the symptoms have been reduced by bleeding it has been found advantageous to exhibit cathartic medicines. This was the practice of Sydenham, Cheyne & Wilson. The latter recommended mercurial purges. The bowels in ale cases should be kept open; as well as purges, laxative clysters should by no means be neglected.

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Emetic Medicine also always improper & ought when exhibited in such doses as only to excite nausea, given with this intention they act as important remedies, by promoting expectoration & determining to the Skin. For this purpose the different preparations of antimony have generally been preferred.

The practice of Sweating in this disease, has had little retaining the confidence of many Physicians; but it should be had recourse to with great caution: for it is always a dangerous & improper remedy while the inflammatory action continues. If it occur spontaneously it should be promoted by moderately warm drinks as barley water, flax seed tea, sage & balm tea &c. After the inflammatory action is removed by the remedies already mentioned, should a Cough remain attended with general debility, which is not unfrequently the case, it will be proper to give Stimulating Medicines as Spirits, bal. alk &c. The Mistura Mucilaginosa as prepared in the Hospital is perhaps one of the best remedies for the Cough, Mucilaginous oily preparations have the same happy effect & should be advised —